

**Amendments to the Claims:**

This listing of claims replaces all prior versions, and listings, of claims in the application:


Listing of Claims:

1. (currently amended) A heat engine ~~in combination~~, comprising:
- a) a plurality of heating side expansion chambers and cooling side expansion chambers, positioned on opposite sides of a circle, wherein said cooling side expansion chambers lag said heating side expansion chambers for expanding and contracting fluids;
  - b) a first wall communicating with said heating side expansion chamber for pushing when a second fluid expands and a second wall communicating with said cooling side expansion chamber for pulling when a first fluid contracts;
  - c) a means for shifting a weight off-center balance when said first wall pushes ~~said a~~ second moment element and a second wall pulls ~~said a~~ first moment element, wherein the force produced by said first wall pushing said second moment element is substantially entirely perpendicular to gravity, allowing gravity to initiate and maintain ~~rotate~~ rotation of the apparatus heat engine about the axis of said circle;
  - d) a heat source for expanding said fluids;
  - e) a cooling source for contracting said fluids; and

f) a structure for supporting said expansion chambers, heat and cooling source, and providing an output motion in a particular direction from the rotation of said ~~apparatus~~heat engine.

2. (original) The heat engine as claimed in claim 1, wherein said heat is from a plurality of sources.
- 3-5. (cancelled)
6. (original) The heat engine as claimed in claim 1, wherein said expansion chamber is selected from the group consisting of a bladder, diaphragm, and membrane.
7. (original) The heat engine as claimed in claim 1, wherein said expansion chamber is a plurality of shapes.
- 8-9. (cancelled)
10. (previously amended) The heat engine as claimed in claim 7, wherein said shape further comprises at least one side of transparent material allowing said chamber to act as a solar collector.
11. (original) The heat engine as claimed in claim 1, wherein said expansion chamber is a plurality of materials.
12. (previously amended) The heat engine as claimed in claim 1, wherein said fluid is highly expandable.

13. (original) The heat engine as claimed in claim 1, wherein said heating side expansion chamber and said cooling side expansion chamber are diametrically opposed about the axis.
14. (cancelled)
15. (currently amended) The heat engine as claimed in claim 1, wherein each said heating side expansion chamber ~~and is in communication with and lags a corresponding said cooling side expansion chamber are and wherein said heating side expansion chamber and said corresponding cooling side expansion chamber are positioned about 45 degrees to 315~~ less than 180 degrees apart.
16. (currently amended) The heat engine as claimed in claim 1, wherein said means for shifting a weight comprises:
- a) is a first piston connected to said first wall;
  - b) and a second piston connected to said second wall;
  - c) a first weight connected to said first piston;
  - d) a second weight connected to said second piston ~~that creates said off-center balance;~~ and
  - e) wherein said off-center balance is produced by expansion of fluid in said heating side expansion chamber to move said first piston toward the axis of said circle and by contraction of fluid in said cooling side expansion chamber to move said second piston away from the axis of said circle.

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17. (currently amended) The heat engine as claimed in claim ~~1~~, 15, wherein said means for shifting a weight is a channel allowing flow of said fluid, from each said heating side expansion chamber to each corresponding said cooling side expansion chamber, by expansion of said heating side chamber first wall and the contraction of said cooling side chamber second wall that creates said off-center balance.
18. (cancelled)
19. (original) The heat engine as claimed in claim 1, wherein said cooling is from a plurality of sources.
- 20-38. (cancelled)
39. (currently amended) A heat engine ~~in combination~~, comprising:
- a) a plurality of heating side expansion chambers and cooling side expansion chambers, positioned on opposite sides of a circle, for expanding and contracting fluids, each said heating side expansion chamber in communication with a corresponding said cooling side expansion chamber;
  - b) a means for shifting a weight off-center balance when said fluids expand or contract, wherein the force produced by said means for shifting a weight off-center balance is substantially entirely perpendicular to gravity allowing gravity to ~~rotate~~ initiate and maintain rotation of the apparatus ~~heat engine~~ about the axis of said circle;
  - c) a heat source for expanding said fluids;
  - d) a cooling source for contracting said fluids; and

e) a structure for supporting said expansion chambers, heat and cooling source, and providing an output motion in a particular direction from the rotation of said ~~apparatus~~heat engine.

40. (original) The heat engine as claimed in claim 39, wherein said heat is from a plurality of sources.

41-43. (cancelled)

44. (original) The heat engine as claimed in claim 39, wherein said expansion chamber is a plurality of shapes.

45. (original) The heat engine as claimed in claim 39, wherein said expansion chamber is selected from the group consisting of a flexible member, an elastic membrane, a diaphragm and a bladder.

46. (cancelled)

47. (original) The heat engine as claimed in claim 39, wherein said expansion chamber is a plurality of materials.


48. (previously amended) The heat engine as claimed in claim 39, wherein said fluid is highly expandable.

49. (cancelled)

50. (currently amended) The heat engine as claimed in claim 39, wherein each said heating side expansion chamber and each corresponding said cooling sides-side expansion chamber are positioned ~~about 45 degrees to 315~~less than 180 degrees apart.

51. (twice amended) The heat engine as claimed in claim 39, wherein said means for shifting a weight is a channel allowing movement of said fluid, from said heating side chamber to said corresponding cooling side chamber.
52. (original) The heat engine as claimed in claim 39, wherein said cooling is from a plurality of sources.
53. (currently amended) A heat engine ~~in combination~~, comprising:
- a) a plurality of heating side expansion chambers and cooling side expansion chambers, positioned on opposite sides of a circle, for expanding and contracting fluids;
  - b) a means for ~~rotating~~ initiating and maintaining rotation of an element about the axis of said circle, when said fluids expand or contract, by using inward moving actuators ~~radial~~ radially positioned about said axis wherein the force that moves said actuators is substantially entirely perpendicular to gravity;
  - c) a heat source for expanding said fluids;
  - d) a cooling source for contracting said fluids; and
  - e) a structure for supporting said expansion chambers, heat and cooling source, said element, and providing an output motion in a particular direction from the rotation of said ~~apparatus~~ heat engine.
- 54-56. (cancelled)
57. (original) The heat engine as claimed in claim 53, wherein said expansion chamber is a plurality of shapes.

58. (cancelled)
59. (original) The heat engine as claimed in claim 53, wherein said expansion chamber is a plurality of materials.
60. (original) The heat engine as claimed in claim 53, wherein said heating is from a plurality of sources.
61. (previously amended) The heat engine as claimed in claim 53, wherein said fluid is highly expandable.
62. (cancelled)
63. (currently amended) The heat engine as claimed in claim 53, wherein each said heating side expansion chamber and each corresponding said cooling side expansion chamber are positioned ~~about 45 degrees to 315~~ less than 180 degrees apart.
64. (original) The heat engine as claimed in claim 53, wherein said element is selected from the group consisting of a cam, and a crank shaft.
65. (original) The heat engine as claimed in claim 53, wherein said cooling is from a plurality of sources.
66. (currently amended) A heat engine ~~in combination~~, comprising:
- a) a plurality of heating side expansion chambers and cooling side expansion chambers, positioned on opposite sides of a circle, for expanding and contracting fluids, each said heating side expansion chamber in communication with a corresponding said cooling side expansion chamber;

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- b) a means for ~~rotating~~ initiating and maintaining rotation of a ring about the axis of said circle, when said fluids expand or contract, by using outward moving actuators radially positioned about said axis, wherein the force that moves said actuators is substantially entirely perpendicular to gravity;
- c) a heat source for expanding said fluids;
- d) a cooling source for contracting said fluids; and
- e) a structure for supporting said expansion chambers, heat and cooling source, said element, and providing an output motion in a particular direction from the rotation of said ~~apparatus~~ heat engine.

67-69. (cancelled)

70. (original) The heat engine as claimed in claim 66, wherein said expansion chamber is a plurality of shapes.

71. (cancelled)

72. (original) The heat engine as claimed in claim 66, wherein said expansion chamber is a plurality of materials.

73. (original) The heat engine as claimed in claim 66, wherein said heating is from a plurality of sources.

74. (previously amended) The heat engine as claimed in claim 66, wherein said fluid is highly expandable.

75. (cancelled)



76. (currently amended) The heat engine as claimed in claim 66, wherein each said heating side expansion chamber and each corresponding said cooling side expansion chamber are positioned ~~about 45 degrees to 315~~ less than 180 degrees apart.
77. (original) The heat engine as claimed in claim 66, wherein said ring is selected from a plurality of materials.
78. (original) The heat engine as claimed in claim 66, wherein said cooling is from a plurality of sources.
- 80-87. (cancelled)
88. (new) The heat engine as claimed in claim 16, wherein said first piston's axis of movement and said second piston's axis of movement form an angle of less than 180 degrees.
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